

## IB Extended Essay - Economics

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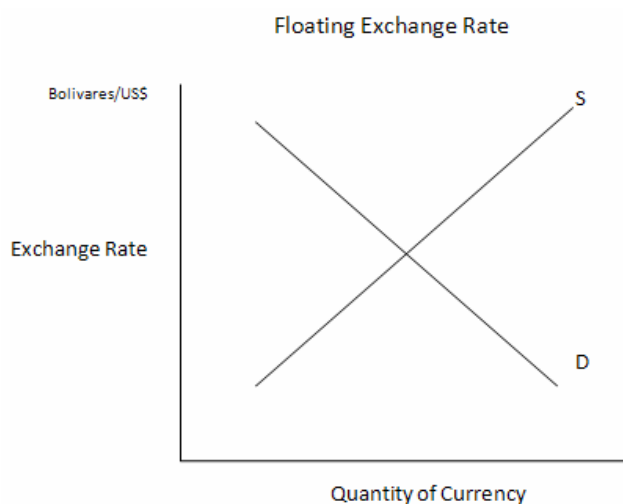
## ▲abstract

Economists have debated the advantages and disadvantages of different exchange rate regimes. ▲n exchange rate regime is how a country chooses to manage the value of its currency with respect to other countries. In the world today, most countries choose to employ a floating exchange rate. Some of the key currencies in the world today such as the dollar, the British pound and the Euro are all floating currencies. In a floating exchange rate, the value of a country's currency fluctuates as demand and supply for said currency changes.

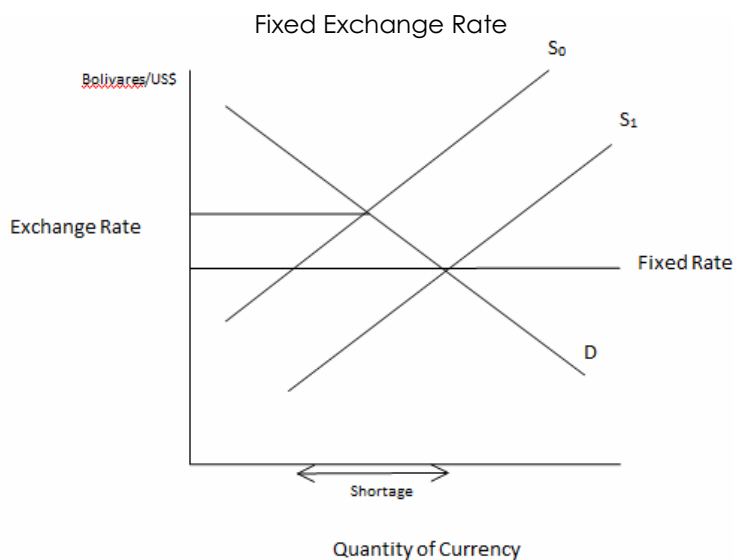
Venezuela is among the few countries that employs a fixed exchange rate. The Venezuelan Bolivar is pegged to the US dollar at 2.15 Bs (Bolivares) to 1 \$US. This investigation will look at the fixed exchange rate policy in Venezuela and it's affect on the functionality of a firm. The firms that will be analyzed are Manpa, a publically-owned Venezuelan paper firm, and a branch of the Indian pharmaceutical company, Dr. Reddy's, operating in Venezuela.

## I. Introduction

It's often been debated which type of exchange rate is better suited for a country's economy. ▲ An exchange rate is the price of one currency in terms of another. ▲ A country's exchange rate depends on the exchange rate system they have chosen to adopt. Most countries choose to employ a floating exchange rate policy; in this system, the exchange rate is determined by the market forces, and so, it fluctuates due to the changing market conditions. In February of 2003, Venezuelan president Hugo Chavez introduced a new fixed exchange rate policy. The introduction of the fixed exchange rate has led to the creation of a parallel market in Venezuela because the true value of the currency is still fluctuating due to market forces. Officially, 2.15 Venezuelan Bolivares are worth 1 US Dollar. In the black market however, the Bolivar is valued much weaker and thus one can receive far more Bolivares for their US dollars when trading at the parallel rate. The exchange rate on the black market is primarily determined by the bond market. ▲ A government bond is considered to be the most secure investment in Venezuela. The government owes the holder a debt and is obliged to repay the principal and interest at a later date. When the Venezuelan government sells bonds, the money used to buy the bonds is being removed from the economy. This decrease in the money supply will increase the value of the Bolivar on the parallel market. Conversely, the money supply would increase if the government were to buy bonds on the open market. Generally, the advantage of a fixed exchange rate is the clarity that it brings. Costs, revenues and profits are supposed to be clear and predictable making it simple for importers and exporters to calculate earnings. This in turn will encourage trade as well. The other benefit of a fixed exchange rate is that there should be less speculation since there should be little movement in the rates (there would still be speculation on the bond market, however.) These benefits do not apply to Venezuela, however, since the Bolivar is greatly overvalued.



A floating exchange rate fluctuates with changes in demand and supply. Some countries also employ a managed floating regime ("dirty float") in which exchange rates fluctuate but the central banks will intervene if the value gets too high or too low.



Venezuela has a fixed exchange rate. In these regimes, the Central Bank should always be intervening to ensure that the demand/supply for the currency coincide with the exchange rate. This, however, is not the case in Venezuela. As a result, there is a parallel market for the Bolivar.

The Bolivar, being at least 20-30% overvalued (Weisbrot, p. 18) by the Venezuelan government, creates a black market, the effects of which have reached all aspects of the economy. When the fixed exchange rate policy was introduced in 2003, the Comisión de Administración de Divisas (CADIVI) was created. CADIVI, a division of the government, handles the conversion of Bolivares to US dollars. This

prevents the exit of capital and enables firms to meet their import needs. These factors have had significant effects on the functionality of firms in Venezuela such as a privately-owned Indian pharmaceutical company operating in Caracas. Globally, the dollar is the currency most frequently used in international trade; it is for this reason that the effect on the pharmaceutical company and other firms is so significant. Apart from the individual firms, the exchange rate directly affects the prices consumers have to pay to purchase certain goods.

## II. The effect of the fixed exchange rate on Manpa, a publically owned firm

One of the main problems with the Venezuelan economy today is inflation. In recent years, inflation was an average of 20.1% from 2003-07. In 2008, it has been 25.7% (officially) up until now (Economist). This rate is one of the highest in South America and among the highest in the world. A major factor that has attributed to this soaring inflation is the fixed exchange rate policy. Through CADIVI, the government intercedes on the foreign currencies market to control the exit of capital. Let's consider how the situation is viewed from a seller's perspective. A seller in Venezuela often needs to purchase raw materials or products from abroad; thus, at least some of their costs are in US dollars. Let's say a firm sells 2,000,000 Bs. worth of goods. These must then be changed into US dollars to pay for the firm's costs. Now the Venezuelan seller will have to convert their Bolivares into US Dollars on the parallel market. Manpa, on the other hand, is a publically owned paper manufacturer in Venezuela. As a publically owned firm, it has access to CADIVI. This means that it can access the 2.15 Bolivares to 1 US Dollar exchange rate to convert Bolivares into dollars. Thus, its costs for foreign resources are at the official exchange rate. Manpa's sales are partly in the 2.15 exchange rate but a significant amount is also sold by converting prices in US dollars in Bs. Using the parallel exchange rate. This means that the firm is saving money on its costs because it can convert revenue in Bolivares into dollars using the 2.15 exchange rate and makes money on sales by converting their dollars into Bolivares using the parallel market (e.g. 4.5 Bs to the dollar.)

	2008 (Up until June)	Annual 2007	Annual 2006
Gross Profit (in millions of Bs)	88.63	122.33	93.87

(Manufacturas de Papel, C.A.)

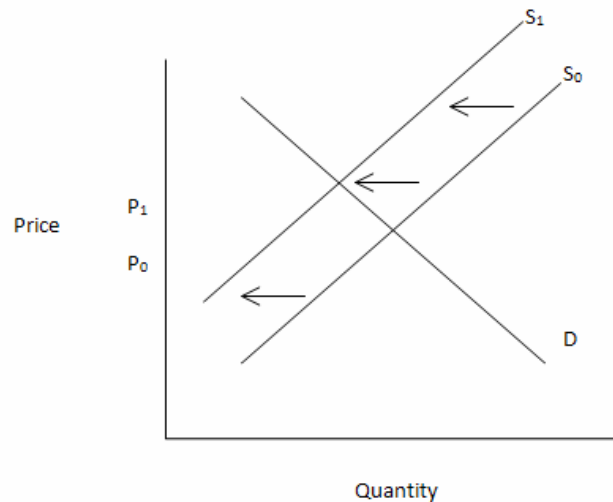
The table above shows Manpa's profits in recent years. In 2007, profits increased quite a bit from 93.87 to 122.33 millions of Bs. Now in 2008, the profits are on track to increase once more. While a significant portion of these increased profits could be attributed to more efficient production, inflation or an increased demand for paper; a significant factor for this increase in profits could arguably be the exchange rate. In the last couple of years, the gap between the fixed and parallel exchange rates has

widened. A few years ago, it was 2.5 Bs to the dollar on the parallel market but in the past couple of years it has increased to around 4.5 – 5.5 Bs. to the dollar at the parallel rate. A firm like Manpa has access to CADIVI to convert their Bs. into dollars and this is likely to have been a contributing factor to the large increase in profits. To summarize, a firm such as Manpa, which has access to CADIVI to exchange their Bs. into US dollars at the official rate will benefit if it can then sell these goods on the market at the parallel rate. The difference in exchange rate allows them to gain a greater profit.

If MANPA sells 2,000,000 Bolivares worth of goods in a particular month and these are exchanged into dollars at the 2.15 rate; their revenue is 930,232.56 USD.

MANPA will then use these dollars to pay off their costs; let's say these are 500,000 USD. This leaves them with 430,232.56 USD of profit. If the 2,000,000 Bs. had been converted to USD on the black market at, let's say, 4.5 Bs to the dollar (if it did not have access to CADIVI), they would've gotten 444,444.44 USD in revenue which wouldn't have been enough for them to gain a profit. This shows the advantage a firm with CADIVI access like MANPA has due to the fixed exchange rate policy.

Until now, we've looked at how the fixed exchange rate can benefit a firm operating in Venezuela. CADIVI is a division of the government, thus, CADIVI will be much more accessible to a governmentally sponsored firm looking to convert dollars into Bolivares. Many privately owned or foreign firms, however, are not able to access CADIVI to convert their Bolivares into US Dollars. In these situations it can become difficult for a firm to operate as they have to use the parallel market to convert Bolivares into US dollars. These inconveniences caused by CADIVI prevent several firms from being competitive; as a consequence, the number of possible sellers is limited which causes the supply curve to shift to the left which increases prices. This shows how the fixed exchange can contribute to inflation.



The restrictions caused by the fixed exchange rate limit the number of suppliers, raising prices from  $P_0$  to  $P_1$

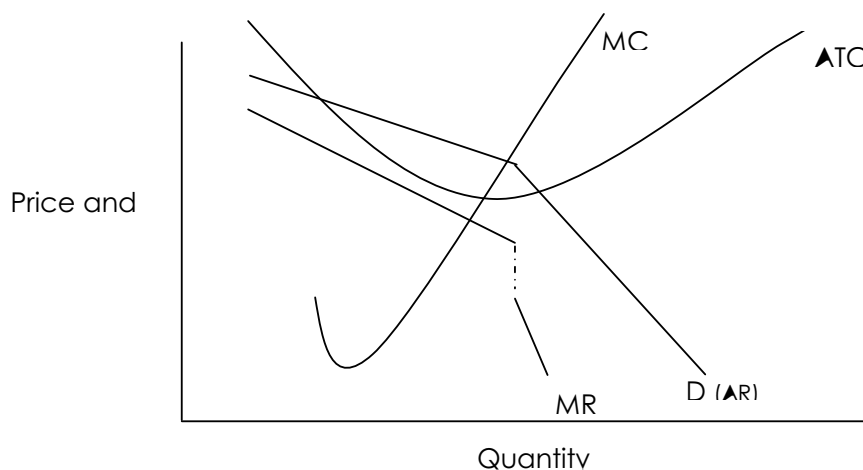
Now let's consider firms without the ability to exchange Bolivares into dollars using the official exchange rate. ▲ firm operating in Venezuela has costs in US\$ and Bolivares and then gains revenue in US\$ and Bolivares as well. If a firm's costs are in US\$ and it then gets its revenue in US\$ as well, there is no currency exchange required and so the firm functions normally. If a firm's costs and revenues are only in Bolivares, the same is true. Since the firm doesn't need to convert currencies, it is not affected by the fixed exchange rate either. It's important to realize that dollars can be exchanged into Bolivares at the official rate; however, Bolivares cannot be changed into dollars at this rate without access to CADI. Many firms need to import raw materials in order to produce their goods; the costs for these firms are in US dollars. If that same firm then sells most of its products in Venezuela, its revenues are in Bolivares. It is in these situations that the exchange rate becomes a significant factor. The same is true if a firm's costs are in Bolivares but it then sells most of its products internationally and receives its revenue in US dollars. These firms are greatly affected by the exchange rate since they must take it into account in their businesses. ▲ firm is especially affected if it's producing products for which demand is elastic. If demand is inelastic, a firm can raise or lower prices without significant effects on its sales to make up for it not having CADI access. ▲ firm whose products have elastic demand will face significant changes in the quantity sold if they adjust their prices and so they will be in a much more difficult position.

It seems as though the fixed exchange rate and access to CADI allow Manpa to gain greater profits. Their ability to convert Bolivares into dollars at the official rate is likely to have been a very significant factor contributing to their supernormal profits. For the pharmaceutical company however, CADI provides a series of difficulties to running a business smoothly and profitably. ▲ access to CADI is generally permitted to firms producing products deemed "necessary. Firms in the food, healthcare, automotive, spare parts and some other industries are usually granted access to

CADIVI." (Khandelwal) If a firm is selling a product that is considered to be a luxury, however, they must exchange money on the black market. Dr. Reddy's produces pharmaceutical goods, and so, it does have CADIVI access. Despite this, the inconveniences caused by the CADIVI process hamper the firm's ability to function.

### III. Dr. Reddy's, a pharmaceutical company

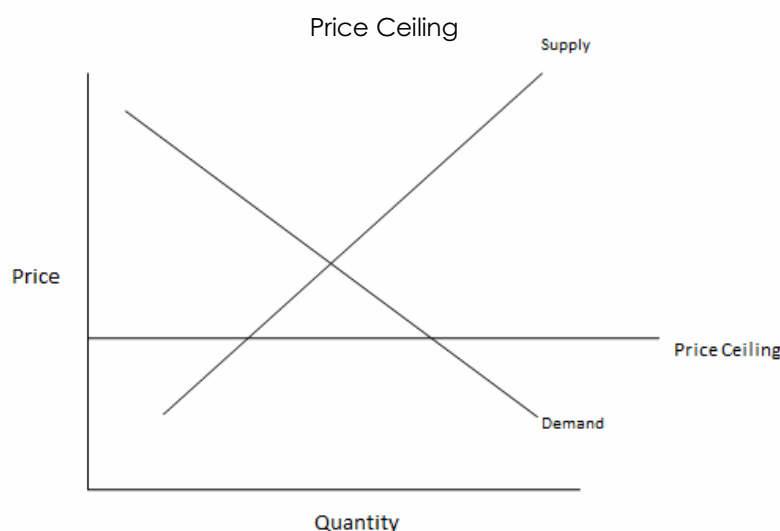
Since the company I spoke to, Dr. Reddy's, is a pharmaceutical company, it, as well most of its competitors, has access to CADIVI. Given that all of the firms in the pharmaceuticals industry have CADIVI access; there isn't a significant advantage over other firms a firm could gain through CADIVI in this type of market. This type of market could be described as an imperfect oligopoly. The market for medicine contains a few large sellers. A key feature of an oligopoly is that entry is difficult. It is made very difficult to enter the market for pharmaceuticals in Venezuela because of the high costs of producing medicines and because of the bureaucracy involved with gaining CADIVI access. This particular market also features differentiated products. Pharmaceuticals range from antibiotics and cold medicine to cancer treatments. It is for this reason that many firms specialize in their product lines. Dr. Reddy's, for example, focuses much of its research and resources on cancer and diabetes treatments. When I spoke with someone from the firm, I asked if the firm charges elevated prices because of the inelastic demand for medicine. I was told that this was not at all the case and that due to competitors; the firm really didn't have much influence when setting their prices. This also fits into another aspect of an oligopoly. In an oligopoly, a firm has limited control over product price because of mutual interdependence (assuming there is no collusion between firms.) There is also a great deal of nonprice competition in the pharmaceutical industry. This is through product differentiation and then advertising the differentiated product to consumers. It is these aspects of an oligopoly that correspond to the pharmaceuticals market in Venezuela.



The pharmaceuticals industry has shown several properties of an oligopoly



While the pharmaceutical industry in Venezuela may be classified as an oligopoly, it's important to note that many of the traditional concepts of the "theory of the firm" model do not necessarily apply in Venezuela. Venezuela is a heavily regulated, quasi-socialist state. To combat rising inflation, the government has utilized price controls frequently in recent years. The prices of many of the products produced by Dr. Reddy's have been regulated by the government, and often, "these price controls have resulted in losses for the firm." (Khandelwal) The fear of price controls prevents a firm operating in Venezuela from operating as a traditional oligopoly. If it is thought a firm is "price gouging," it is likely the government will intervene and introduce price controls. This means that a firm in Venezuela will likely sell their goods for slightly less than the demand curve would dictate elsewhere. The effect of a price ceiling is shown below. ▲ firm may be forced to sell a product at a price below the free-market equilibrium and this may result in a shortage of the product.



A price ceiling is "a legally established maximum price for a good or service" (McConnell, p. G-22).

#### IV. The effect of the fixed exchange rate on Dr. Reddy's

CADIVI poses a series of problems that limit the firm's functionality. In order to gain access to CADIVI, a business must first apply. The application process is a great hassle as a company must submit several documents. These include a statement of financial position and a company's "Registro Mercantil" (company registration). This itself is a very lengthy process and can take 6 to 9 months or longer. Several firms are denied their requests and as a firm waits for approval, their costs rise significantly. While the pharmaceutical company waited to get registered in CADIVI, they had to continue to operate and pay their employees which significantly increased their costs. When a

firm is requesting access to CADIVI, it must also submit "solvenscias." These must also be submitted each month thereafter and show that a company has paid for certain services and is capable of meeting its obligations. For example, the medical firm needs a solvency each month from the Instituto Venezolano de Los Seguros Sociales (IVSS) which show that the firm has paid its social security payments for its employees. If any of these documents are not submitted to CADIVI on time, the firm is no longer able to exchange their Bolivares. These requirements themselves provide additional costs for the pharmaceutical company as they have several employees hired specifically to ensure that solvenscias are submitted to CADIVI on time. (Khandelwal) These waiting times are a hindrance to a company's functionality and these additional costs make it difficult for a company to be profitable. This 'red tape' occurs in all parts of the world, and it is especially common in developing countries. The term 'red tape' refers to excessive regulation by a government that is often redundant and bureaucratic. Many of CADIVI's policies which require excessive paperwork and obtaining licenses could be considered too redundant. These processes do hinder a company's ability to make decisions or take actions in an expedient manner. In Venezuela, President Chavez has expressed his belief that oil companies such as Exxon-Mobile had been robbing Venezuela of its resources and taking profits out of Venezuela. This red tape is often common in developing countries as they try to prevent any exit of capital.

Once a company is registered with CADIVI, they are then faced with a lengthy process when trying to import items. They simply cannot exchange into any amount of Bolivares into dollars whenever they choose. A request for import approval from CADIVI is required. The firm has to detail what they need to be imported, the value of these items, as well as the quantity of good being imported. Approval is usually a quick process and takes 2-3 days. These goods are then imported and received by the firm. The issue here is that the firm has to then apply to CADIVI to pay the supplier. CADIVI then tells the Banco Central de Venezuela (BCV) to pay the supplier; this process usually takes 3-4 months but can take even longer. This means that the supplier has to wait for payment and this causes a great deal of problems for the firm. The supplier may stop supplying their goods, and, while the firm waits for the supplier to get paid, they cannot import any more goods. It is this time lag that inhibits the full functionality of the firm. I was told that the aforementioned pharmaceutical company has often needed to exchange Bolivares into dollars at the parallel rate because the CADIVI process was taking too long. These situations significantly increase the firm's costs and have led it to incur losses.

## **V. Conclusion**

CADIVI complicates the currency exchange market in several ways. The ability to exchange Bolivares into dollars at the official exchange rate allows a firm to significantly reduce their

costs. Despite this, however, the entire CADIVI process costs the firm a significant amount of time and resources. Time is an implicit opportunity cost as a firm is unable to do business efficiently while it waits for CADIVI dollars. If a company is able to gain quick access to CADIVI dollars, their costs will be greatly reduced and they will not suffer so much from a time lag. When the fixed exchange rate policy was introduced in 2003, the exchange rate was fixed at 1.60 Bolivares to the US dollar. Assuming that the currency was valued close to its market value when this policy was introduced, Venezuela's inflation would've led to depreciation making it worth at least 2.80 Bolivares to the dollar on the parallel market. The government now values the currency at 2.15 Bolivares to the dollar meaning that the currency is at least 30% overvalued in comparison to the dollar. In recent years the currency has depreciated significantly in recent years on the parallel market; regularly being worth more than 4.00 Bolivares to the dollar on the parallel market. This shows just how significant of an advantage a firm can have with quick CADIVI access. It is in these situations that a firm benefits greatly. In the eyes of an international pharmaceutical company, Venezuela is a suitable place to set up for several reasons. Over the past 4 years, Venezuela has enjoyed a 7.6% average annual growth rate in real GDP. Demand in general in Venezuela is also very high; this in turn means that prices are generally high making business quite profitable if a firm has access to CADIVI. Venezuela was described as a "high risk, high returns" (Khandelwal) location. While losses are very realistically possible, a firm with CADIVI connections can gain a great deal from investing in Venezuela.

When considering the overall effect on firms, one must also consider the elasticity of demand for the product a firm is producing. The pharmaceutical company is fortunate in that the demand for medicine is very inelastic. Demand is the amount of a particular good or service that a consumer is willing and able to purchase at a particular price. In the case of medicine, a consumer will almost always be willing to buy it if they have sufficient income and it is more a question of whether or not they can afford it. Speaking with the medical firm, however, I was told that despite the relatively inelastic demand for medicine, the numerous competitors provide substitutes which prevent a firm from charging prices that are too high. Manpa, it seems, benefits more from CADIVI because there are not as many competitors in the Venezuelan paper industry. Due to the decreased number of competitors, supply is not quite as high and Manpa has more influence when determining prices. In conclusion, a firm cannot be profitable unless it has access to CADIVI. Convenient CADIVI access allows a firm to benefit significantly. However, if a firm is producing a product that isn't completely necessary, their CADIVI access will be denied and their ability to function in Venezuela will be greatly hampered by the fixed exchange rate.

In conclusion, the currency exchange process in Venezuela is greatly complicated. CADIVI access may allow a firm to reap greater profits but it may also prevent a firm from functioning to full capacity. A fixed exchange rate usually brings clarity. The rate should always be the same when exchanging currencies. Because of

the parallel market, however, none of these benefits seem to apply in Venezuela. The Venezuelan Central Bank, the BCV, should always be buying or selling bonds and adjusting the interest rate to influence supply and demand of the currency in order to maintain the Bolivar at a fixed rate. This, however, is not that case. Venezuela has attempted to bring the parallel rate closer to the official rate but a lack of foreign reserves has made this difficult. For this reason, the fixed exchange rate currently overvalues the Bolivar significantly. This essentially takes away any of the clarity and predictability that a fixed exchange rate is supposed to bring. It was for this reason the pharmaceutical company I spoke to described Venezuela as a "high risk, high returns" location; this is especially the case now with the drastic drop in oil prices.

### Works Cited

Dr. Reddy's Laboratories Limited. "Annual Report 2007-08." Dr. Reddy's. 2008. 30 Nov. 2008 <[http://67.19.80.66/Dr.Reddys\\_Annual\\_Report\\_Flash/index.aspx?issue=issue02](http://67.19.80.66/Dr.Reddys_Annual_Report_Flash/index.aspx?issue=issue02)>.

Dr. Reddy's Laboratories Limited. "About Us." Dr. Reddy's. 2008. 27 Nov. 2008 <<http://www.drreddys.com/coverview/aboutus.htm>>.

Economist Intelligence Unit. "Country Briefings: Venezuela." Economist.com. 15 Oct. 2008. The Economist. 6 Nov. 2008 <<http://www.economist.com/countries/Venezuela/profile.cfm?folder=Profile-FactSheet>>.

Hernandez, Francisco. Personal interview. 28 Sept. 2008.

Khandelwal, Prashant. Personal interview. 7 Nov. 2008.

Manufacturas de Papel, C.A. "Estados Financieros Auditados 2007-2006." MANPA. 29 Oct. 2008 <<http://www.manpa.com.ve/espanol/secciones/finanzas/estefincie.xls>>.

Manufacturas de Papel C.A. "Products." MANPA. 29 Sept. 2008 <<http://www.manpa.com.ve/ingles/secciones/product/ingproddex.html>>.

McConnell, Campbell R., and Stanley L. Brue. Economics: Principles, Problems, and Policies. New York: McGraw-Hill/Irwin, 2002.

Weisbrot, Mark, and Luis Sandoval. "The Venezuelan Economy in the Chavez Years." Center for Economy and Policy Research (July 2007).